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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,322	05/14/2001	Baskaran Vijayakumar	PA1742US	1111

22830 7590 06/17/2003

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EXAMINER

BARAN, MARY C

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/855,322

Applicant(s)

VIJAYAKUMAR ET AL.

Examiner

Mary Kate B Baran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18 is/are allowed.
- 6) ☒ Claim(s) 1, 4-7, 9, 12 and 19 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 8, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is responsive to Amendments filed 31 March 2003. Claims 1-19 are pending.

2. The amendments are sufficient to overcome the objections to the specification and the abstract.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-7, 9, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry et al. (U.S. Patent No. 6,292,193) in view of Dickie (U.S. Patent No. 6,016,152).

Referring to claims 1, 9 and 19, Perry et al. teaches a method of texture filtering (see Perry et al., column 6 lines 10-15), comprising the steps of: receiving input information relating to polygon and texture data (see Perry et al., column 6 lines 2-9); and aggregating subsamples (see Perry et al., column 6 lines 20-25). Perry et al. does not teach morphing a texture reconstruction filter characteristic or an effective filter

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characteristic matches the texture reconstruction filter characteristic of a texture reconstruction filter used for coarse sampling.

Dickie discloses morphing (see Dickie, column 3 lines 58-65) a texture reconstruction filter characteristic (see Dickie, column 3 lines 36-42) and that an effective filter characteristic matches the texture reconstruction filter characteristic of a texture reconstruction filter used for coarse sampling (see Dickie, column 4 line 65 – column 5 line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perry et al. to include the teachings of Dickie because morphing filters allows the skilled artisan to reduce artifacts caused by resampling (see Dickie, column 2 lines 45-48).

Referring to claim 4, Perry et al. further teaches the effective filter characteristic matches the characteristic of a bilinear filter (see Perry et al., column 8 lines 38-55).

Referring to claim 5, Dickie further teaches the effective filter characteristic matches the characteristic of a combination of a bilinear filter and a box filter (see Dickie, column 5 lines 26-32 and column 4 line 65 – column 5 line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perry et al. to include the teachings of Dickie because using both bilinear filters and box filters as a reconstruction filter allows the skilled artisan to reduce artifacts caused by resampling (see Dickie, column 2 lines 45-48).

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Referring to claim 6, Perry et al. further teaches the effective filter characteristic matches the characteristic of a combination of a linear filter between MIP levels (see Perry et al., column 8 lines 38-55) but does not teach and a combination of a bilinear filter and a box filter.

Dickie further discloses a combination of a bilinear filter and a box filter (see Dickie, column 5 lines 26-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Perry et al. to include the teachings of Dickie because linear filters, bilinear filters and box filters reduce artifacts caused by resampling (see Dickie, column 2 lines 45-48).

Referring to claims 7 and 12, Dickie further discloses the morphing (see Dickie, column 3 lines 58-65) of the texture reconstruction filter characteristic (see Dickie, column 3 lines 36-42) performed in a continuous manner (see Dickie, column 4 lines 22-25).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Perry et al. to include the teachings of Dickie, because continuous reconstruction filtering allows the skilled artisan to reduce artifacts in continuously presented images (see Dickie, column 2 lines 45-48).

Allowabl Subj ct Matter

4. Claims 2, 3, 8, 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 13-18 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

The limitations which recite: input information relating to a degree of warping per texture coordinate, input information relating to a rate of sampling of the polygon data, and a value $\beta = \min(\delta \cdot (n-1/n, 1.0))$ are not found taught or suggested in the prior art of record.

Response to Arguments

7. Applicant's arguments filed 31 March 2003 have been fully considered.

Applicant's arguments pertaining to claims 2, 3, 8, 10, 11, and 13-18, have been fully considered and are persuasive. The rejections to these claims have been withdrawn.

Applicant's arguments pertaining to claims 1, 4-7, 9, 12 and 19 have been fully considered but are not persuasive.

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Applicant argues that Dickie does not teach morphing a texture reconstruction filter characteristic based upon input information. However Dickie does teach morphing (see Dickie, column 3 lines 58-65) a texture reconstruction filter characteristic based on input information (see Dickie, column 3 lines 36-42).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

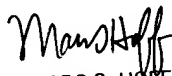
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B Baran whose telephone number is (703) 305-4474. The examiner can normally be reached on Monday - Friday from 8:00 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (703) 308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

MKB
June 9, 2003


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800